

### Abstract

A process is described for preparing hydrogen cyanide by autothermal noncatalytic oxidation of one or more nitrogenous hydrocarbons or a nitrogenous hydrocarbon mixture in which the nitrogenous hydrocarbons, an oxygen-containing gas, with or without ammonia, with or without water, with or without a gas containing nitrogen oxides and with or without other essentially inert feed gas constituents are introduced into a flame reaction zone, react in the flame reaction zone and a post-reaction zone at a temperature of from 1000 to 1800°C for a reaction time of 0.03 to 0.3 s to form a cleavage gas which comprises at least the constituents hydrogen cyanide, carbon oxides, hydrogen, water, ammonia, nitrogen, light hydrocarbons with or without other cleavage gas constituents, the atomic C/N ratio in the reaction zones being from 1 to 7 and the atomic air ratio  $\lambda_{\text{ato}}$  being  $<0.6$ , the cleavage gas being cooled and separated.

(Figure 1)